

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (previously presented) A fuel cell comprising:
a membrane electrode assembly including an ionically conductive member and at least one electrode disposed at said ionically conductive member;
an electrically conductive member adjacent said electrode, wherein said electrically conductive member comprises a metal plate having a major surface; and
a flow field comprising conductive particles dispersed in a binder wherein said flow field is defined by lands patterned on said major surface of said electrically conductive member.
2. (original) The fuel cell of claim 1, wherein the conductive particles are electrically conductive.
3. (original) The fuel cell of claim 1, wherein the conductive particles are thermally conductive.
4. (currently amended) The fuel cell of claim 1, wherein the conductive particles are selected from the group consisting of carbon black, graphite, gold, and platinum.

5. (original) The fuel cell of claim 1, wherein the binder is selected from the group consisting of polyimide, polyester, and epoxy.

6. (cancelled)

7. (previously presented) The fuel cell of claim 1, wherein said major surface of said plate faces said electrode, a gas diffusion medium is disposed between said major surface and said electrode, and said lands of said flow field abut said gas diffusion medium.

8. (original) The fuel cell of claim 7, wherein said gas diffusion medium is selected from the group consisting of carbon papers, carbon cloths, and carbon foams.

9. (previously presented) The fuel cell of claim 7, wherein said plate further comprises a material selected from the group consisting of composite and polymeric materials.

10. (currently amended) The fuel cell of claim_1, wherein the flow field comprises a plurality of lands that define a plurality of grooves therebetween; and the lands of the flow field include about 50 percent of conductive particles and about 50 percent of binder.

11. (original) The fuel cell of claim 7, wherein a height of at least two of said lands varies between regions of the major surface of said electrically conductive member.

12. (original) The fuel cell of claim 11, wherein the height varies between regions of said major surface according to compressive force exerted at said region respectively.

13. (original) The fuel cell of claim 11, wherein the height is lower in a first said region which is under relatively high compressive force and the height is higher in a second said region which is under relatively low compressive force.

14. (original) The fuel cell of claim 1, wherein variation in contact resistance between said regions is minimized by the height varying between said regions.

15. (previously presented) The fuel cell of claim 1, wherein said electrically conductive member comprises a gas diffusion medium having said major surface with said flow field pattern.

16. (previously presented) The fuel cell of claim 15, wherein the gas diffusion medium is selected from the group consisting of carbon papers, carbon cloths, and carbon foams.

17. (previously presented) The fuel cell of claim 15, wherein said major surface of said gas diffusion medium faces away from said electrode and a current collector plate abuts said lands defined on said major surface of said gas diffusion medium.

18-28. (cancelled)

29. (previously presented) The fuel cell of claim 1, wherein said at least one electrode comprises a plurality of alternating catalytic regions and non-catalytic regions, wherein the non-catalytic regions are aligned with said lands of said flow field.